



Pegaso™ ***Powered Mobile Dock***



Installation Guide

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5,493,108 • 5,508,505 • 5,664,231 • 5,671,374 • 5,686,716 • 6,041,374 • 6,412,698 • 6,415,978 • 6,454,168 • 6,478,224 •

6,513,714 • 6,536,670 • 6,561,427 • 6,585,157 • 6,923,377 • 7,108,170 • D377345 • CA2,188,399 • Other U.S. and Foreign Patents Pending.

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Datalogic Pegaso™ Powered Mobile Dock Warranty

Warranty

Falcon products are guaranteed against defects in materials and workmanship for the period specified at the time of sale. This warranty shall apply to Falcon Portable Data Terminals (PDT's), Base Stations for the Falcon and Chargers for the Falcon. Cables, mounts and other accessory items are specifically warranted for a period of 90-days from product purchase. Customer must notify Datalogic of the claimed defect before the expiration of the Warranty period and obtain from Datalogic a return authorization number for return of the product to designated Datalogic service center. If Datalogic determines Customer's claim is valid, Datalogic will repair or replace product without additional charge for parts and labor. Customer shall be responsible for packaging and shipping the product to the designated Datalogic service center, with shipping charges prepaid. Datalogic shall pay for the return of the product to Customer if the shipment is to a location within the country in which the Datalogic service center is located. Customer shall be responsible for paying all shipping charges, duties, taxes, and any other charges for products returned to any other locations.

Warranty is subject to the limitations and exclusions set forth in the paragraphs that follow.

WARRANTY SET FORTH ABOVE IS IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY AND FITNESS.

Exclusions

Warranty coverage shall not apply to any claimed defect, failure or damage which Datalogic determines was caused by: abuse, neglect, improper use of product; failure to provide product maintenance, including but not limited to cleaning of the display in accordance with product reference guide; installation or service of product by other than Datalogic representatives; use of product with any other instrument, equipment or apparatus; modification or alteration of product or units with Warranty Void labels that have been tampered with. External cables and replacement of upper window/cartridge due to scratching, stains or other degradation will not be covered under the Warranty. External power supplies returned for service must be accompanied by the original product for performance of service.

Returned products that Datalogic Mobile, Inc. has determined are not covered by Warranty, will be charged Datalogic Mobile, Inc. standard repair rates then in effect for repair of product. Replacement of display due to scratching, stains or other degradation will not be covered under Warranty. If a product is determined to be not repairable customer will be notified and product may be returned to customer at their request. A minimum repair fee may be charged.

Limitation of Liability

DATALOGIC'S REPAIR OR REPLACEMENT OF DEFECTIVE PRODUCT AS SET FORTH ABOVE IS THE CUSTOMER'S SOLE AND EXCLUSIVE REMEDY ON ACCOUNT OF CLAIMS OF BREACH OF WARRANTY OR PRODUCT DEFECT. UNDER NO CIRCUMSTANCES WILL DATALOGIC BE LIABLE TO CUSTOMER OR ANY THIRD PARTY FOR ANY LOST PROFITS, OR ANY INCIDENTAL, CONSEQUENTIAL IN-DIRECT, SPECIAL OR CONTINGENT DAMAGES REGARDLESS OF WHETHER DATALOGIC HAD ADVANCE NOTICE OF THE POSSIBILITY OF SUCH DAMAGES.

Assignment

Customer may not assign or otherwise transfer its rights or obligations under Warranty except to a purchaser or transferee of product. No attempted assignment or transfer in violation of this provision shall be valid or binding upon Datalogic.

Risk of Loss

Customer shall bear risk of loss or damage for product in transit to Datalogic. Datalogic shall assume risk of loss or damage for product in Datalogic's possession or product being returned to Customer by Datalogic, except such loss or damage as may be caused by the negligence of Customer, its agents or employees. In the absence of specific written instructions for the return of product to Customer, Datalogic will select the carrier, but Datalogic shall not thereby assume any liability in connection with the return shipment.

Electrical Warnings, Safety Precautions & Regulatory Statements

Safety Precautions

The Datalogic Pegaso is a device suitable for both Commercial and Industrial applications, ready for installation in mobile environments using the Powered Mobile Dock. However, there are some safety precautions you should take to protect the PDA from unnecessary damage.



CAUTION

Do not place the Pegaso near a television or radio receiver.

Keep the PDA away from magnets and from magnetic fields.

Chapter 1

Introduction

Manual Overview

- Chapter 1 (this chapter) provides an introduction to the features of the Powered Mobile Dock.
- Chapter 2 specifies important electrical considerations to observe when installing the unit.
- Chapter 3 contains instructions for mounting.
- Chapter 4 describes the various peripheral connections made to the Dock, and their functions.

Document Conventions

Formatting conventions are used throughout this guide to provide a consistent method for representing the user interface and mobile mount dock. This guide also provides special conventions for information of high interest, in the form of notes, cautions, and warnings.



Notes contain information that is helpful and recommended. They provide information that is critical to operations and/or procedures described in this manual.



CAUTION

Cautions inform you that proper handling (adherence to the procedures described) is required to avoid damage to equipment and/or property.



WARNING

Warnings alert you to potential physical harm or injury. These statements do not include potentially fatal hazards, which would be designated as 'DANGER' blocks. Use of this product does not warrant the need for a DANGER block.

About the Powered Mobile Dock

The Powered Mobile Dock (PMD) is a rugged cradle for Pegaso PDAs, for use on mobile applications. This guide is intended to address some of the factors to consider when installing the PMD on gas, diesel, propane or electric powered forklifts.



To ensure you have the latest version of manuals and instructions for this product, download them from the [Datalogic Mobile website](#) listed on the back cover of this manual.

The procedures describe installation for most standard mounting applications; however, if your target installation does not generally match any of the mounting options detailed, contact Datalogic for technical support regarding a custom installation.

Features of the Powered Mobile Dock

- Power On Indicator
- Holder for the Pegaso PDA
- Battery charging for the Pegaso
- Versatile mounting options
- Serial port connection for peripherals (with power available)
- USB Mini AB OTG Port available for peripherals

Figure 1. Features of the Pegaso Powered Mobile Dock



Electrical Specifications:

- Input voltage range: +12 to +18V
- Power consumption: <50 MA with no load
- +5v available on COM port and as part of USB OTG Connection

Unpacking

Unpack the unit carefully and ensure you received everything you ordered. Refer to your packing slip for an exact list of items delivered, which may include some or all of the following items:

- Powered Mobile Dock
- Power Charging Cable
- Installation Guide (this manual)

- Ram Ball Mount Kit
 - Ram Ball Assembly
 - Assorted Screws
 - Any additional accessories required for your installation

If any parts are missing, please contact your dealer or refer to “Troubleshooting” on page 21 for Datalogic Mobile Technical Support contact information.

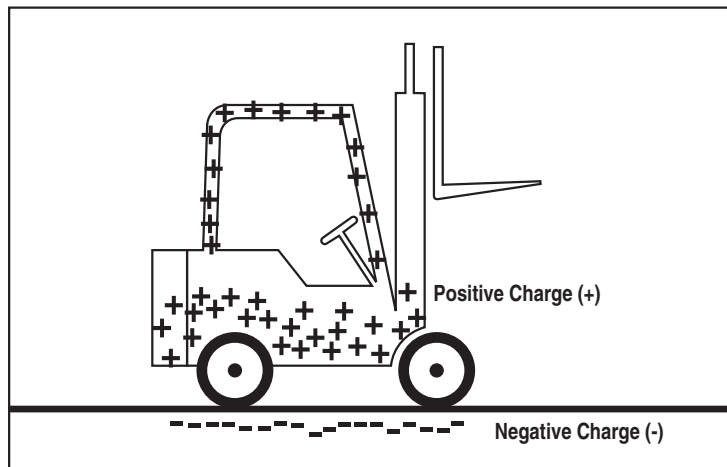
Chapter 2

Electrical Considerations

Electrostatic Build-up

One common characteristic of forklifts is the possibility of producing high levels of electrostatic voltage. Static is created by the wheels as they move about the floor and can also be generated when an operator slides on or off of a vehicle's cloth-covered seat. Static buildup on the forklift frame can be as high as several thousand volts (see Figure 2). At these levels of high voltage, a discharge can cause severe damage to electronic devices.

Figure 2. Static Build-up on a Forklift Frame



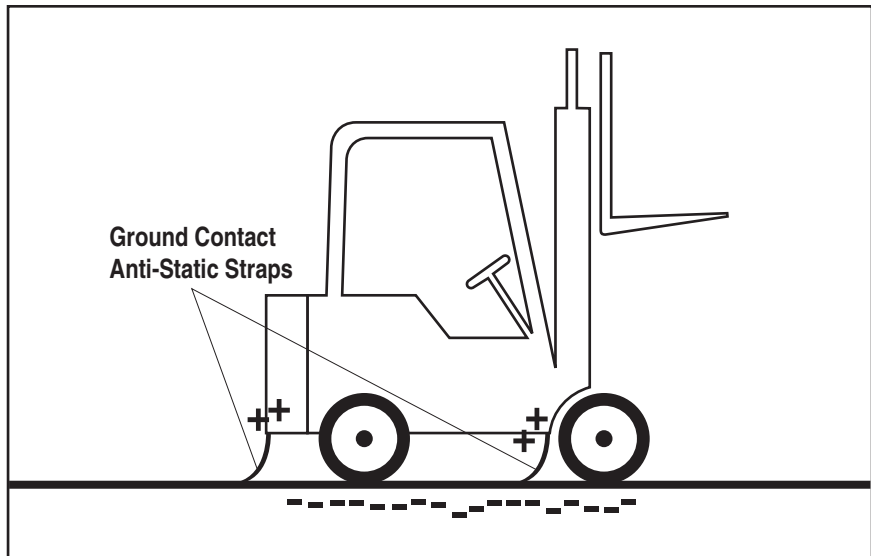
There are several factors which affect the levels of static buildup on a forklift. For instance, the type of materials used to make the wheels can help to reduce static, as well the conductive properties of the flooring and the relative humidity in the air. Static buildup will remain on the vehicle until it can be dissipated. Lowering the front forks to make contact to the floor surface can typically do this. However, eliminating the potential for static buildup is the best means of protection for both operator and equipment.

Ground Contact Anti-Static Straps

The recommended method of reducing static buildup is to install ground contacting anti-static straps or conductors to the frame of the forklift (refer to Figure 3).

Contact your forklift parts provider for availability.

Figure 3. Installing Ground Contact Anti-Static Straps



It is recommended that more than one strap be installed on each vehicle to help eliminate or reduce the potential for static buildup while the vehicle is in motion. This will provide an adequate level of redundancy, should one of the straps become dislodged from the lift.



Ground Contact Anti-Static Straps should be checked at regular intervals to ensure proper installation or identify need for replacement.

Electrical Accessories

Installation of the PMD may require accessory electronic equipment for proper and safe operation. Some of this equipment may not be available through Datalogic, but could be available through your dealer, forklift parts provider, or other suppliers. See Appendix A, “Accessories and Peripherals” on page 23.

DC/DC Converter. Voltage step down device used to power the PDA from +24, +36 and +48 volt battery systems.

DC Conditioner/UPS. Used to provide backup DC power during sags or interruptions in battery voltage due to peak loads or disconnect.

Delay Timer. Provides automatic shut-off of power to a PDA or other equipment, to reduce battery drain.

Noise Spike/RF Filter. Used to suppress high voltage and RF voltage spikes on the power system.

Electrical Accessory Matrix

Table 1 summarizes the accessory recommendations and options available depending on the forklift voltage application. This matrix should be used only as a reference and may not include accessories for all applications.

Table 1. Electrical Accessories

Accessory	Forklift System Voltage			
	12 volt	24 volt	36 volt	48 volt
DC/DC Converter	Not Required	Required	Required	Required
DC Conditioner/UPS	Optional*	Not Required	Not Required	Not Required
Delay Timer	Optional*	Optional*	N/A	N/A
Noise Spike/RF Filter	Recommended	Recommended	Recommended	Recommended
5-Amp Dock In-Line Fuse	Required	Required	Required	Required

*Ensure that the device being installed is properly rated for use on your mobile platform.

Electrical System Connections

This section covers electrical connection to +12V, +24V, +36V and +48V systems.



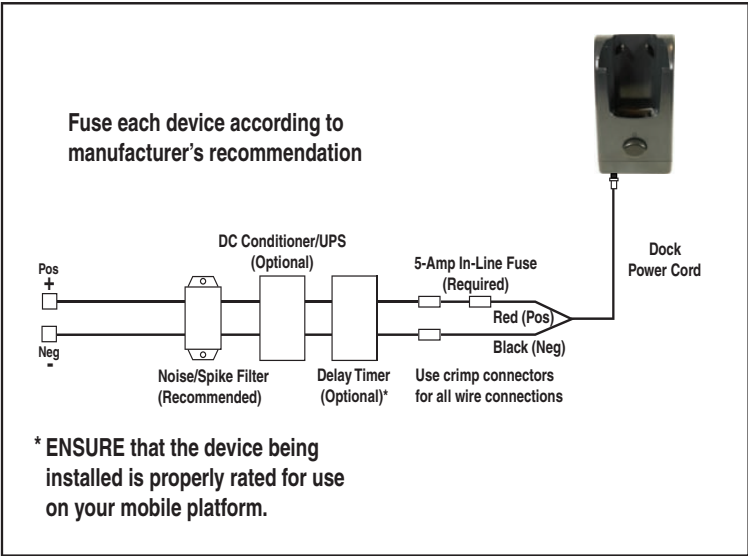
Proper installation requires that source power connections be made directly to the mobile platform's positive and negative battery terminals. It is important to maintain electrical isolation when installing the Powered Mobile Dock and any accessory equipment, to ensure safe and proper operation. Do not make any electrical connections directly to the chassis of the forklift.

Connection to +12V

Figure 4 illustrates a typical wiring connection for a +12 volt system. The input voltage operating range of the dock will allow direct connection to the battery terminals. However, the use of a 5-Amp fuse is required, and a Noise Spike/RF filter is highly recommended.

Accessory equipment may also be required depending on your application, Refer to Table 1 on page 2-7. Read and follow all manufacturer's installation instructions carefully.

Figure 4. Wiring Diagram for +12V Systems



Connection to +24V, +36V and +48V Systems

Figure 5 illustrates a wiring diagram for +24, +36 and +48 volt systems. The use of a DC/DC converter is required to step down the battery voltage for use by the PDA.



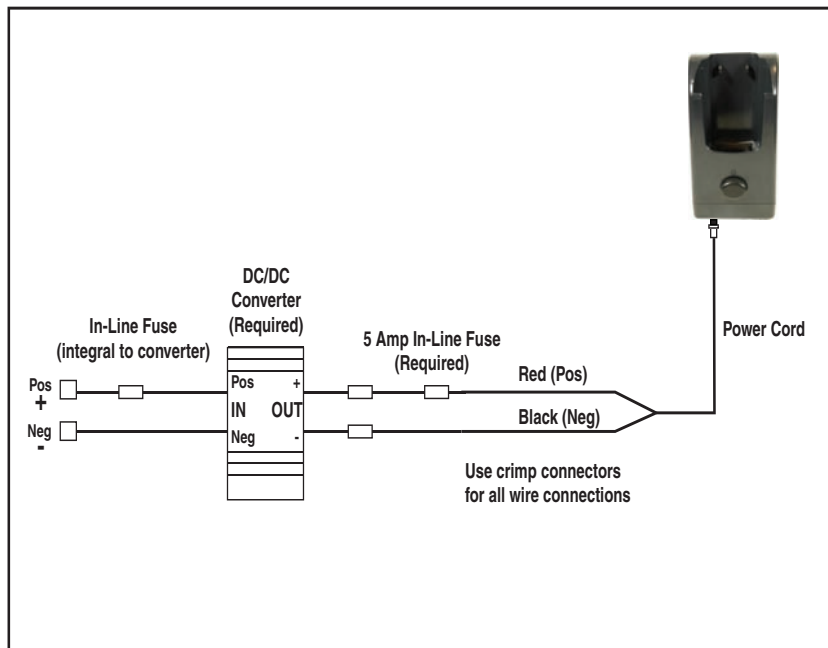
CAUTION

Proper installation requires that source power connections be made directly to the mobile platform's positive and negative battery terminals. It is important to maintain electrical isolation when installing the PMD and any accessory equipment, to ensure safe and proper operation. Do not make any electrical connections directly to the chassis of the forklift.

When using any optional equipment caution must be taken to ensure that +24, +36 or +48VDC does not exceed any voltage rating for these devices. Follow all manufacturer's installation instructions carefully.

Some DC/DC converters provide internal Noise Spike/RF filtering. The use of an additional filter is optional.

Figure 5. Wiring Diagram for +24V, +36V and +48V Systems



NOTES

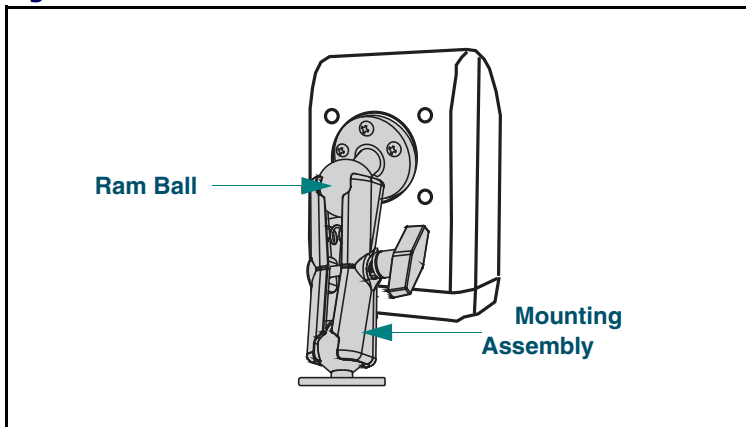
Chapter 3

Mounting Options

Ram Ball Mounting Assembly

This chapter outlines the steps needed to assemble and mount the Powered Mobile Dock using the Ram Ball mount accessory. The Ram Ball and mounting assembly, shown in Figure 6, combine to form an extremely flexible mounting assembly. This assembly allows wide range of rotation for the Mobile Dock. It can be mounted on any flat horizontal or vertical surface.

Figure 6. The Ram Ball Mount



Install only on properly grounded mobile platforms. If this Dock is used on an electric vehicle, ensure that no part of the PMD and PDA can come into contact with the vehicle chassis. Electrical discharges can develop on these vehicles, which can damage the PMD and/or PDA. Refer to “Electrical Considerations” starting on page 5 for important information.

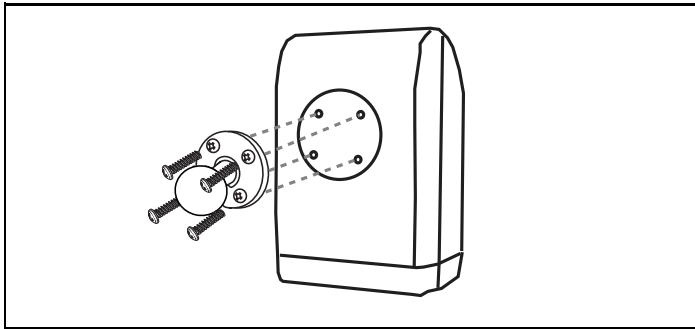
Components, Materials and Tools

- Four M3.5 screws for mounting Ram Ball to PMD (supplied)
- Phillips head screwdriver
- Ram Ball Assembly (sold separately)

Attaching the Ram Ball to the Mobile Dock

1. Align the second Ram Ball with the four screw holes on the rear of the Mobile Dock as shown in Figure 7.

Figure 7. Installing the Ram Ball on the Mobile Dock

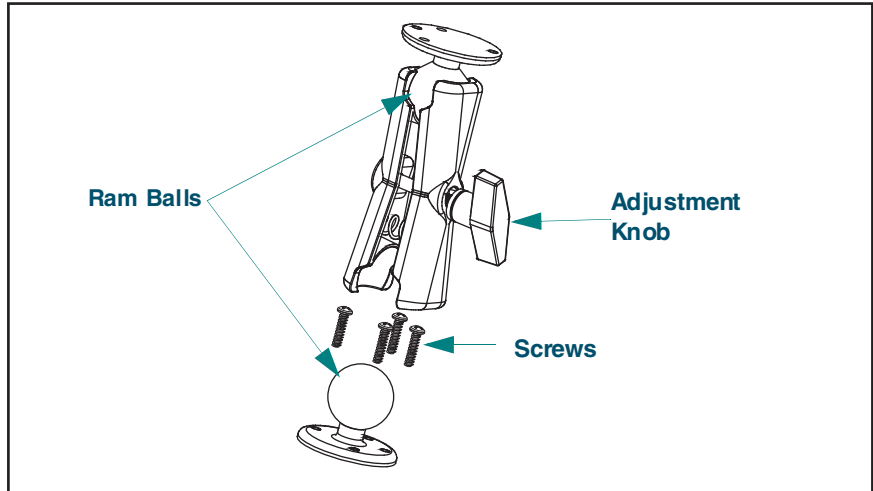


2. Secure the Ram Ball to the mounting area using the four supplied M3.5 x 15mm Phillips head screws.

Ram Ball Assembly (sold separately)

1. Loosen the large adjustment knob handle on the Ram Ball assembly.
2. Remove both Ram Balls from the mount as demonstrated in Figure 8.

Figure 8. Ram Ball Assembly

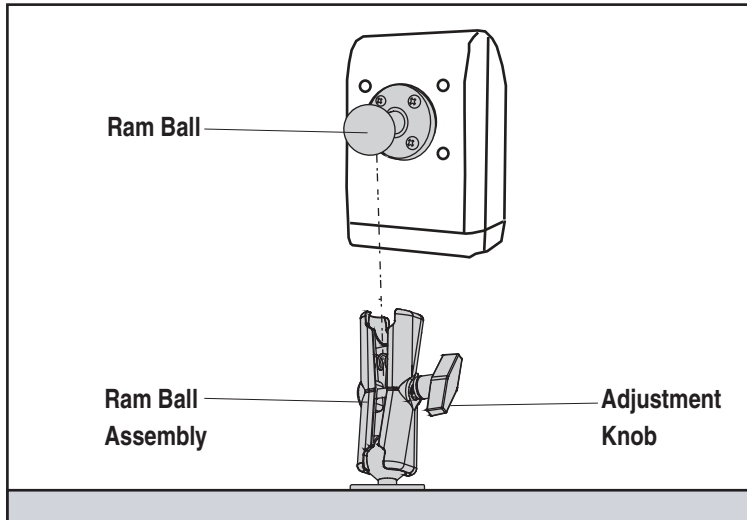


3. Use four screws (customer supplied) to secure one of the Ram balls to the desired mounting surface. Set the other Ram ball aside to use later in the assembly process.
4. Re-attach the Ram Ball Assembly to the Ram Ball you just affixed to the mounting surface.

Final Assembly

1. Insert the Ram Ball, mounted to the rear of the Mobile Dock assembly, into the Ram Ball assembly you earlier affixed to the mounting surface (see Figure 9). Tighten the adjustment knob to secure the Ram Ball in place.

Figure 9. Installing the Mobile Dock Assembly on the Mount



2. Loosen the Adjustment Knob slightly to tilt the Mobile Dock to the desired mounting angle. Re-tighten the Adjustment Knob securely.
3. Route and connect all cables (see “Power and Peripheral Device Connections” starting on page 17 for more on connections). If you haven’t already prepared the power connection, reference “Electrical Considerations” starting on page 5 for wiring information.

Inserting/Removing the Pegaso

Inserting the Pegaso in the Dock

To insert a Pegaso into the Powered Mobile Dock, perform the following steps:

1. Slide the Pegaso into the Powered Mobile Dock.
2. Push gently downwards to insert the Pegaso until it is firmly seated in the Dock.

Figure 10. Inserting the Pegaso into the Powered Mobile Dock



Insertion of the Pegaso in the Dock is complete.

Removing the Pegaso from the Dock

To remove the Pegaso from the Dock:

1. Grasp the Pegaso PDA with one hand, while pushing the Release Button with the other.
2. Lift the Pegaso straight upward to remove it from the Dock.

Figure 11. Removing the Pegaso from the Dock



Removal of the Pegaso from the Dock is complete.

Chapter 4

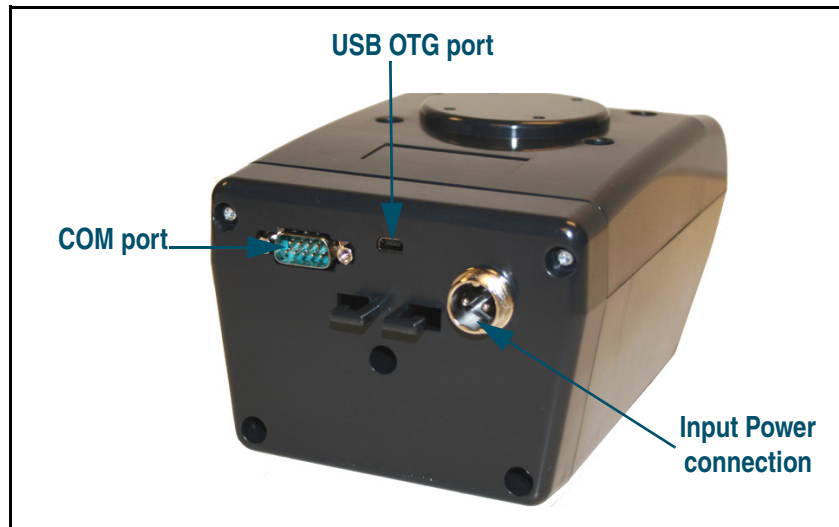
Power and Peripheral Device Connections

This chapter describes connection of peripheral devices that are provided with or available for the Pegaso PMD system. For more on power connections, see “Electrical Considerations” starting on page 5.

Connections on the Dock

Figure 12 shows the connection located on the bottom of the dock. See the following pages for more information about these connections.

Figure 12. Cable Connections



Power Connection

Insert the DC power cord at the power port on the bottom of the dock. When power is applied to the dock, the Power-On LED will light.

Also refer to “Electrical Considerations” starting on page 5 for complete information and wiring diagrams detailing power connection.



For non-mobile applications, an AC power supply adapter is available to power the PMD. See “Accessories and Peripherals” on page 23. Contact your local distributor or Datalogic sales for additional information.

Battery Charging

The PMD provides battery charging for the Pegaso PDA when powered.



The Pegaso will charge its installed battery when power is applied to the Powered Mobile Dock.

COM Port Connection

The PMD includes a powered DTE serial port connection to allow the Pegaso PDA to communicate with peripherals, such as a handheld scanner or a portable printer. +5v is available on pin 9 of the port connector for power to a peripheral.



Some peripherals may not follow all of the specifications for RS-232 hardware flow control. These will require additional or special considerations when used with the dock. See Table 2 for COM port pinouts.

Table 2. COM port DB9M Pinouts

Pin No.	Signal	
1	DCD	Tied
2	RXD	
3	TXD	
4	DTR	
5	GND	
6	DSR	
7	RTS	
8	CTS	
9	+5 @ 500Ma	

USB Connection

The Pegaso Powered Mobile Dock includes a USB OTG connection (shown in Figure 12 on page 17) to allow the Pegaso PDA to communicate with peripherals such as handheld scanners and printers. The USB port is automatically configured to function as a USB host or client device when the proper cable is inserted into the Mini AB connector.

If a Mini A connector is inserted into the PMDs USB connection the device will assume a host port function. In this mode the USB port will supply up to 500ma of current to power the client device such as a scanner or printer. If a Mini B connection is inserted into the PMDs USB connection the device will assume a client port function. In this mode the device will respond to a host PC system as a client device.

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Appendix A

Troubleshooting

Hardware Troubleshooting

Issues with Power to the Dock

- Ensure that the power connector is pushed securely into the power plug.
- When power to the unit is turned on, a light will appear on the Dock.

Refer to the *Pegaso Quick Reference Guide* (QRG) for information about powering on the Pegaso and a description of its LED functions.

Technical Support

Datalogic Mobile Website Support

The Datalogic Mobile website (www.mobile.datalogic.com) is the complete source for technical support and information for Datalogic products. The site offers product support, warranty information, product manuals, product tech notes, software updates, demos, and instructions for returning products for repair.

Reseller Technical Support

An excellent source for technical assistance and information is an authorized Datalogic reseller. A reseller is acquainted with specific types of businesses, application software, and computer systems and can provide individualized assistance.

Telephone Technical Support

If you do not have internet or email access, you may contact Datalogic technical support at (541) 743-4802.

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Appendix B

Accessories and Peripherals

Overview

Installation of the PMD may require accessory electronic equipment for proper and safe operation. Contact your reseller or Datalogic sales for information about availability.

Table 3. Pegaso Mobile Dock Accessories

Item	Description
	Pegaso Powered Mobile Dock (Mounting hardware not included)
	Mount, RAM Base w/ 1.5" Ball
	Mount, RAM 5.5" 2x Socket, 1.5" Ball

Item	Description
	Mount, RAM 2.5" Wide Clamp Base w/1.5" Ball (Accommodates up to 2.5" wide posts)
	Mount, RAM 3.5" 2x Socket, 1.5" Ball
	Mount, RAM 6" Base Plate
	Mount, RAM 7.35" Assy w/ 2x 1.5" BALLs
	Kit, RAM Mount, Base w/ 1.5" ball, 5.5" socket, 2.5" wide clamp w/1.5" ball. (Includes one each)

Item	Description
	Mount, RAM 5.25" Assy w/ 2x1.5" BALLs
	Power Cord, Bare lead, 8'
	DC Converter, 18-55VDC IN / 13.8V 10Amp Out
	DC Noise Spike Filter, 4-60VDC, 8Amp
	Kit, Inline Fuse 5 Amp

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